

Remarks

Claims 1, 6, 11, 16 and 21-26 were pending. Method claim 6 has been written in independent form; and composition claims 1, 11 and 21-26 have been cancelled. New method claims 27-33 have been added. Support for new claim 27 is found in original claim 11, as well as in the Examples; new claims 28-33 correspond to previous claims 21-26 except that they are method claims as opposed to composition claims. Consequently, no new matter has been added as a consequence of this amendment.

Pursuant to the outstanding Office Action, claims 1, 6, 11, 21 and 22 stand rejected under 35 USC 102 and/or 35 USC 103 over Asrar et al (US Patent 6,660,690). In addition, claims 1, 6, 11, 16 and 21-26 stand rejected under 35 USC 103 as being obvious over Sembo et al (US Patent 6,555,092) in view of Selby et al (US Patent Application 2004/0053786) and Lahm et al (US Patent Application 2004/0198984). These grounds of rejection are respectfully traversed, and reconsideration requested, in view of the arguments presented below.

The Presently Claimed Invention

The presently claimed invention, as amended, is directed to a method of controlling household pests employing a composition comprising i) from 0.001% by weight to 0.06% by weight bifenthrin and ii) from 0.001% by weight to 0.20% by weight of a second insecticide selected from the group consisting of imidacloprid, thiamethoxam, and clothianidin.

In this regard, it is noted that Applicants have demonstrated unexpected results with respect to the two important features of such control: (a) knockdown – quick, short term immobilization of such pests; and (b) mortality – death of such pests. Both of such features are important as home owners want to see a rapid debilitating effect on such insects as well as high mortality.

It is urged that such method is neither suggested nor disclosed by the cited publications.

The Rejection in View of Asrar et al

Asrar et al is directed to a method of preventing damage to seeds comprising treating such seeds with a composition comprising a pyrethroid and at least one other insecticide.

Preliminarily, Applicants note that (in Column 22, lines 47-50) Asrar et al specifically indicate that “The target pest for the present invention is an adult or larvae of any insect or other pest that feeds on the seed, roots and/or shoots and foliage of the plant that is to be protected by the subject method.” In view this express limitation, it is clear that Asrar et al is not directed to the control of general household pests such as German cockroaches, American cockroaches, Oriental cockroaches, house flies, red imported fire ants (RIFA), and mosquitos which do not feed off the seeds, roots, shoots or foliage of plants. Moreover, Asrar et al does not disclose the weight limitations for bifenthrin or for imidacloprid, thiamethoxam or clothianidin contained in the present claims. Consequently, Asrar et al does not anticipate the presently claimed invention.

Further, while Asrar et al alleges that a great number of combinations of pyrethroid/non-pyrethroid insecticide combinations are synergistic for a great number of insect genera over a large ratio of combinations, the sole relevant example provided by Asrar et al shows the unpredictability of the art as well as the complete lack of supporting data for such allegation.

Specifically, Asrar et al allege that each of the 825 combinations listed in Table 1 (including composition 77 which comprises bifenthrin + imidacloprid) will exhibit synergistic activity against the approximately 150 listed exemplary genera of insects listed in Paragraphs 54-80 at weight ratios of from 1000:1 to 1:1000 (see Paragraph 85). However, it is noted that the only data provided by Asrar et al (in Table 3) shows that many of the mixtures of the sole mixture exemplified (tefluthrin + acephate) – all of which mixtures should be synergistic according to the Asrar et al’s shotgun disclosure – **do not exhibit synergy** when tested against the sole insect species tested (black cutworm).

For convenience sake, Table 3 of Asrar et al is reproduced below:

TREATMENT	Tefluthrin (gm/100 kg seed)	Acephate (gm/100 kg seed)	STAND REDUCTION (% at 10 days)	Percent of Control	Synergy
RAZE	100		75	75	
RAZE	200		100	100	
RAZE	300		83	83	
ORTHENE		100	6.3	6.3	
ORTHENE		200	18.4	18.4	
RAZE/ ORTH	100	100	9.4	9.4	NO
RAZE/ ORTH	100	200	9.4	9.4	YES
RAZE/ ORTH	200	100	33	33	NO
RAZE/ ORTH	200	200	9.4	9.4	YES
RAZE/ ORTH	300	100	13.5	13.5	NO
RAZE/ ORTH	300	200	7.1	7.1	YES
UN- TREATED CONTROL	0	0	100		

It is noted that, according to such Table, combinations of tefluthrin + acephate are not synergistic when applied at one 1:1 ratio (i.e., at 100 gm/kilogram each) but are synergistic when applied in the same ratio at higher amounts (i.e., at 200 gm/kilogram each). Similarly, it is noted that no synergy is present when such compounds are applied at 2:1 or 3:1 ratios; but synergy is alleged to occur when they are employed in a 3:2 ratio. Applicants urge that, in light of such data, Asrar et al – rather than suggesting the present invention as being obvious to try – show the unpredictability of the subject matter involved.

Given such unpredictability, it is urged that the desirable knockdown (a concept nowhere addressed in Asrar et al) and control demonstrated by the presently claimed compositions in Tables 1-18 of the instant application is completely unexpected from a reading of Asrar et al. Consequently, it is asserted that Asrar et al neither anticipates nor suggests the presently claimed invention.

The Rejection Under 35 USC 103 over Sembo et al in view of Selby et al and Lahm et al

Sembo et al is directed to aerosol pesticidal compositions comprising dinotefuran, 1-methyl-2-nitro-3-(tetrahydro-3-furylmethyl)guanidine, as an active ingredient. At column 2, lines 20-23, Sembo et al indicate that such compositions may also contain (1) an “other pesticidal **compound**”; and (2) a synergist.

In column 2, lines 32 et seq., Sembo et al discloses that the other compound which may be combined with dinitofuran can be bifenthrin or thiamethoxam (as two of the approximately 50 specific compounds listed). Further, in column 2, lines 56-57, Sembo list PBO, MGK264, S421 and IBTA as potential synergists.

Thus, the clear teaching of Sembo et al is that compositions containing (i) dinotefuran; and (ii) bifenthrin or thiamethoxam; may be employed. There is no suggestion or disclosure that compositions comprising both bifenthrin and thiamethoxam would be effective in the absence of dinotefuran. Further, one of skill in the art would conclude from a reading of Sembo et al that the compositions described therein would not exhibit unexpected effects in the absence of one of the four listed synergists. Consequently, the unexpectedly desirable control exhibited by the present claimed compositions (shown in Tables 1-18 of the present specification) could not have been predicted from a reading of Sembo et al.

Selby et al is directed to certain insecticidal 1,8-naphthalenedicarboxamides. In paragraph 184, Selby et al discloses that such compounds can be employed in combination with one or more insecticides selected from a lengthy laundry list of more than 100 compounds, including bifenthrin, imidacloprid, and thiamethoxam. There is no suggestion or disclosure in Selby et al that any of such compounds could be employed in the absence of a 1,8-naphthalenedicarboxamide, much less that a combination of bifenthrin with imidacloprid or thiamethoxam would produce the unexpectedly desirable results demonstrated by Applicants (in Tables 1-18 of the present application) when employed in the claimed concentrations. Consequently, it is urged that the presently claimed invention is not obvious in view of Selby et al.

Lahm et al is directed to certain anthranilamides which exhibit arthropocidal activity. Although mixtures with other known insecticides are disclosed (in paragraph 238 as noted by the Examiner) this publication contains no data showing any unexpected results of such

combinations. Further there is no suggestion or disclosure in Lahm et al that any of such compounds could be employed in the absence of an anthranilamide, much less that a combination of bifenthrin with imidacloprid or thiamethoxam would produce the unexpectedly desirable results demonstrated by Applicants (in Tables 1-18 of the present application) when employed in the claimed concentrations. Consequently, it is urged that the presently claimed invention is not obvious in view of Lahm et al.

Finally, it is urged that Sembo et al, Selby et al and Lahm et al, even taken together, do not suggest the presently claimed invention. Sembo et al requires the presence of dinotefuran; Selby et al requires the presence of a 1,8-naphthalenedicarboxamide; while Lahm et al requires the presence of an anthranilamide. One of skill in the art would have no motivation from a reading of these publications to exclude such required compounds; much less to select those compounds present in the presently claimed invention from the long laundry lists of potential other compounds provided, as well as to employ such compounds in the claimed concentrations.

Conclusion

Overall, therefore, it is submitted that the presently claimed invention is clearly patentable over the cited publications. Reconsideration is respectfully requested and allowance of Claims 6, 11, 16, and 27-33 is courteously solicited.

Respectfully submitted,

May 4, 2011

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